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ABSTRACT

This manual has been designed to enable school districts to utilize orderly and effective management procedures for the inservice training of teachers in writing performance objectives. The approach recommended involves first, the selection of instructors who develop skills in writing performance objectives and second, the utilization of these instructors in helping other district teachers acquire similar skills. The first four sections of the manual provide management guidelines and instructional aids for the four inservice teacher training sessions. The subsequent section details some suggested management procedures for curriculum development in the district after participants have completed the series of training sessions. The presentation concludes with a description of the use of the sequential learning path as an organizational technique in the district's instructional design. A related document is EA 004 848. (Author/DN)

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Writing Performance Objectives

Instructor's Manual for Teachers and Administrators

To Be Used With:

A Programmed Course for Writing of Performance Objectives

Produced by:
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INTRODUCTION

Proper use of this instructional manual will enable school districts to utilize orderly and effective management procedures for the in-service training of teachers. The recommended approach moves through two stages: the first involves a selected cadre of instructors in the development of skills in writing performance objectives, while this cadre during the second stage assists other district teachers in acquiring similar skills.

Prior to working with teachers and administrators, the selected instructors will become thoroughly familiar with both the Instructor's Manual and the programmed materials. Once trained, each instructor will conduct a series of four meetings within the district for other teachers. These training sessions will require a total of eight hours of in-service instruction.

Experience gained during thorough field tests of these and related materials indicates that participating cadre can function with satisfaction and confidence in the proposed instructional assignment.

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ORIENTATION TO PROGRAM

You have been selected to be an instructor for the Performance Objective Workshop. You have received training in the writing of performance objectives and possess the experience and skill to teach other professional educators. As with all teaching assignments – and you are undertaking a four-week teaching assignment – preplanning is essential. It is important that you familiarize yourself with this manual and the programmed material.

The five major sections of this manual are color-coded to correspond to sections of the programmed material. Sections I through IV provide management guidelines and instructional aids for the four training sessions you will conduct with teachers. Section V details suggested management procedures to follow in curriculum development in the district after completing the series of training sessions. The final pages describe the use of the sequential learning path as an organizational technique in the district's instructional design.

Section I is an introduction to performance objectives. It is critical that the teachers understand specifically the objectives of the workshop and the format of instruction. The rationale for the training must make sense to each participant, and each should be aware that the recommended procedures are designed to save teacher time.

Sections II, III and IV -- color-coded to correspond to appropriate pages in the programmed materials -- contain:

- ... a description of the tasks the teachers will have completed in the programmed booklet
- ... suggested points of discussion for the purposes of instruction
- ... assignments for the teachers to complete during the training sessions

The assignments in this manual are complete with answers (for your convenience), and explanations are included where applicable. These assignments appear in the final pages of the programmed booklet, and they will be used by teachers during the training sessions. The workshop content will make use of an overhead projector at each meeting helpful where available. From past experience, it is suggested that the number of teachers working with each instructor be limited to 20.

While every effort has been made to simplify this approach to curriculum development, the workshop sessions do require thorough involvement and considerable effort on the part of the participants. Each training session is product oriented. By focusing your instruction upon the stated objectives for each training session, teacher developed products will be guaranteed.

We wish you success in your new teaching assignment!

WORKSHOP OBJECTIVES AND ACTIVITIES

Listed below are the objectives and activities for each of the four training sessions of the Performance Objective Workshop. As you prepare for each meeting, review the objective and activities to ascertain the materials and equipment you will need.

Workshop Objective:

By the termination of instruction the participants will be able to write Program, Instructional and Task Level objectives for critical skill areas in a subject of individual choice. The accuracy will be determined by the instructor and the class, in accordance with the criteria established in the materials of instruction.

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Meeting 1

Objective:

By the end of the first meeting the learners will become oriented to the programmed materials to a point where they are able to proceed through the first 34 frames without assistance.

Activities:

1. Introduction to Workshop

   A. Distribute the booklet "A Programmed Course for the Writing of Performance Objectives."
   B. Review time line and establish meeting places and dates.

2. Overview of Performance Objectives

   A. Discuss definitions of "performance objective" and "goal."
   B. Explain why performance objectives should be developed for the school curriculum.
   C. Discuss common criticisms of performance objectives.
   D. Review the terms "performance" and "criterion" and explain the three elements of a performance objective.
   E. Discuss "Important Statements Regarding Performance Objectives."

3. Review Procedure to be Used with Programmed Materials (Introduction to Programmed Booklet).

   A. Assign Frames 1-34 (to be completed by next meeting).

Meeting 2

Objective:

Upon completion of Frame 34 in the programmed materials, the learner will be able to identify the three parts of a performance objective and write five objectives correctly, according to the criteria established in the programmed book.

Activities:

1. Review the difference between "goal" and "objective" (see Meeting 1).
2. Discuss the section "Preparing and Evaluating Performance Objectives."
3. Assign Assignment 1 and review answers (optional).
4. Assign Assignment 2 and review answers (optional).
5. Assign Assignment 3 and review answers (optional).
6. Critique objectives written by teachers for Frame 34.
7. Assign Assignment 4 and critique objectives (mandatory assignment).
8. Assign Assignment 5 and critique objectives (optional).
9. Assign Frames 35-115 (to be completed by next meeting).

Meeting 3

Objective:

After completing Frame 115, the learner will demonstrate proficiency in writing performance objectives at the six cognitive levels and identify correct objectives in the psychomotor and affective domains. The written objectives will be critiqued as to their appropriateness by members of the class. All objectives must meet the standards of the established criteria.

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Activities:

1. Explain the differences between the cognitive, psychomotor and affective domains.
2. Critique objectives written by the teachers.
3. Assign Assignment 6 and review answers.
4. Assign Frames 116-139 (This completes the programmed material).

Meeting 4

Objective:

At the completion of Frame 139, the learner will be able to write Program, Instructional and Task Level Objectives. The appropriateness will be determined during a critique by the class and the instructor. All objectives must meet the standards of the established criteria.

Activities:

1. Explain the definitions of and relationships among the following: Goal Statement, Similar Goal, Program Level Performance Objectives, Instructional Level Performance Objectives, and Task Level Performance Objectives.
2. Review examples of Program Level, Instructional Level and Task Level Objectives.
3. Explain the rationale for writing performance objectives which focus upon the learner's acquisition of critical skills and knowledge.
4. Review examples of critical skills and knowledge.
5. Have the trainees complete Assignment 7 and critique products.

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SECTION I

Meeting 1

DEFINITIONS OF GOAL AND OBJECTIVE

Many times the two terms — goal and objective — are confused, and it is necessary to understand the differences between the two before proceeding with the writing of performance objectives.

GOAL:

Definition: a statement of broad direction, general purpose or intent. A goal is general and timeless and is not concerned with a particular achievement within a specified time period.

Some examples of goals are:

Gain a general education
Develop skills in reading, writing, speaking, and listening
Learn how to examine and use information
Develop a desire for learning now and in the future

Goals should be established through a process which involves the citizens of the community. Once goals are specified and ranked in order of their importance, schools have the obligation to follow these directions and fulfill the desires of the public to the best of their abilities.

Once goals are established and placed on a priority basis, it is then the responsibility of the district's professional staff to develop performance objectives to meet the intent of the goal statements.

PERFORMANCE OBJECTIVE:

Definition: A clear precise statement of **what** the learner is to do to demonstrate competence at the end of a prescribed learning period. It describes **how** the learner is to demonstrate his competency and **how well** the learner is to perform in order to demonstrate his competency.

A performance objective tells **how** the learner will perform after completing prescribed learning activities. It identifies the behavior or performance which is the desired outcome of his effort.

A performance objective states specifically the **outcome** a teacher will expect from the student. A clearly stated series of objectives assists the teacher in eliminating busy work, repetition and boredom in the classroom. It helps students evaluate their own progress and gives both student and teacher specific direction.

An example of a Performance Objective is:

After being given a specific paragraph, the learner will capitalize all words which require capitalization with 100% accuracy.

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RATIONALE FOR PERFORMANCE OBJECTIVES

Performance Objectives:

1. Provide an Effective, Efficient Way of Analyzing Curriculum.

   BY insuring **continuity** of a curriculum from kindergarten through 12th grades that is measurable through diversified testing methods.

   BY encouraging that, once **priorities** have been established, resources will be allocated commensurate with these priorities.

2. Assist Teachers in Planning.

   BY providing **structure** for the teacher to plan and prepare instructional materials to meet the needs of the learners.

   BY **clarifying** for both learner and teacher the purposes and objectives of specific instructional tasks.

3. Assure Continuity in a School Program.

   BY facilitating methods of **individualized** instruction designed to effect learning without failure.

   BY **strengthening** the areas of the curriculum revealed, by test results, to be weak.

4. Help With District Articulation.

   BY insuring that **critical skills** will be emphasized.

   BY insuring that **educational objectives** which are difficult to measure remain an integral part of the curriculum.

5. Place Teachers in a Very Professional Position.

   BY holding students **accountable** for their achievement through the use of clear, precise, achievable objectives.

   BY placing accountability in its proper **perspective** as the responsibility of the entire educational community.

6. Assist Teachers When Reporting to Parents.

   BY providing clear, understandable objectives regarding the **progress** of students.

CRITICISMS OF PERFORMANCE OBJECTIVES

Teachers and administrators are occasionally critical of performance objectives and raise questions with respect to their value. Some criticisms are listed below accompanied by appropriate responses. These will help instructors to answer many of the questions which may be asked by workshop participants.

Criticism 1. **Performance Objectives are "mechanical" and are an inhumane way of teaching children.**

First, a performance objective does not tell a teacher how to teach; it explains to the learner in the clearest terms possible what he is expected to learn. What can be more humane, open and honest than to say to a youngster, "here are the specific things I want you to learn, and I am going to do all I can to help you be successful in learning them."

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Teachers have been trained and are paid to teach. The "successful" teacher will use a variety of teaching techniques to help a student reach an objective. Instructional techniques will vary from student to student. There is yet to be developed a magic formula which will automatically produce the "optimum" teaching strategy to meet the needs of the individual child.

Second, a performance objective does not tell a teacher what to teach. In fact, it is the teacher who makes this determination, who writes the specific critical skills he believes are most important for the youngsters to learn in order to be successful in school and the real world. It is the teacher, then, who determines what is to be taught.

Finally, performance objectives are but tools to be used along with other educational materials and curriculum designs. They are no more nor less humane than the person in whose hands they are being utilized.

Criticism 2. **Performance Objectives take away student individuality, in that all must achieve the same objectives in the same way.**

A complete system based upon performance objectives individualizes learning as it has never before been possible. When a complete learning sequence is developed, the learner proceeds at his own rate, in his own way, guided by the teacher and directed by the methods or media selected. Each child is expected to acquire certain critical skills and attain specified levels of proficiency at his individual learning rate – many will surpass the required levels.

Criticism 3. **Performance Objectives take away the creativity of the teacher.**

In reality, the teacher has more time to be creative. Once the objectives have been established and agreed upon and a sequence of instruction produced – the teacher can then concentrate on the "how" part of teaching. The "how" part of teaching deals with methods and media to use with a particular child or group of children so the learners receive the maximum benefits from the experience.

Criticism 4. **Many desirable Objectives are not measurable, and many learning experiences are not measurable.**

There are many things taught that are not immediately measurable or observable. This certainly doesn't mean we shouldn't continue to teach them. From the Center's experience it has been found that teachers are perceiving many more things as measurable now than was true a year ago. This trend will continue as teachers acquire more skills in the writing of performance objectives. For example, it is possible to some degree to measure those learning processes or behavioral changes which take place in the affective domain. This is particularly true of creative teachers in the areas of the fine arts, social sciences and English and many other areas, where attitudes, values and feelings are so important. But teachers need not stop teaching particular areas of the curriculum simply because they are not yet ready to cite measurable results. The point to make in the workshops is that most learning experiences are measurable, and those are the things we should attempt to measure.

Criticism 5. **The system of performance objectives is dehumanizing to the teacher.**

The validity of this statement depends upon how a district embarks upon the program. If it is arbitrarily decided to purchase an already developed package from a commercial company or from another district, then this technique could cause some problems. **But if a staff is allowed to determine its own objectives and write into the plan those things which they, as the subject matter experts, believe are important, then the plan has every chance of success in contributing to increased freedom in teacher interaction.** This does not mean commercial materials should not be used, or materials from other districts shouldn't be carefully examined – they should be, but only after the staff has been thoroughly trained to write, recognize and discriminate between a proper and an improper performance objective. Many materials are available, especially from school districts where Performance Objective Workshops have been completed. Their materials should be utilized to avoid duplicating time and effort.

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Criticism 6. **The staff doesn't have the time to do all this work.**

In many cases this is true, and districts will simply have to find ways to get around this problem. Many are establishing a number of minimum days during the school year. This seems to be the most common approach.

Criticism 7. **How will teachers be evaluated when they begin using Performance Objectives in the classroom?**

Upon completion of performance objectives at all levels of instruction, adoption of the procedures, and implementation of the plan — instructional activities and programs then must be evaluated. In all probability present evaluation systems will have to be altered. New criteria and procedures will have to be drawn up, field tested and established as policy. This is a new area in education — a twilight zone. Few programs have been developed to establish evaluation procedures based upon performance objective teaching. An excellent reference is **Toward Accountable Teachers** by John D. McNeil (listed in the bibliography of your workbook).

ELEMENTS OF PERFORMANCE OBJECTIVES

Review these terms with the trainees.

PERFORMANCE: REFERS TO ANY OBSERVABLE OR MEASURABLE ACTIVITY DISPLAYED BY THE PERFORMER (LEARNER, PERSONNEL, ADMINISTRATOR, GROUP)

CRITERION: THE STANDARD UPON WHICH THE LEARNER'S PERFORMANCE IS EVALUATED

> A Performance Objective:
>
> Identifies **exactly** what the learner is to do. Defines **how** the learner is to do it. States **how well** the learner is to perform.

It is important to remember that a performance objective must contain the following **three** elements:

1. **What** must be **known** or **done.**

   For example:

   a. **Facts** to be learned.
   b. **Projects** to be completed.
   c. **Ideas** to be analyzed.
   d. **Definitions** to be memorized.
   e. **Places** or **things** to be identified.
   f. **Problems** to be solved.

2. **How** it will be **done** or **demonstrated.**

   For example:

   a. By a **written test.**
   b. By **oral explanation**
   c. By **physical demonstration**
   d. By **role playing.**
   e. By **making something.**
   f. By **exhibiting a certain kind of behavior.**

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3. How well it must be done.

   For example:
   a. With 90% accuracy.
   b. To the satisfaction of the teacher.
   c. According to a criterion.
   *d. To the satisfaction of the learner's peer group.
   *e. As measured by a standardized test (percentile).
   *f. To the satisfaction of the learner.

*If the third element "how well it must be done" contains the statement "to the satisfaction of the teacher or peer group or learner," the criteria for what satisfied should be stated. The learner must know specifically how well he is to perform.

Note:

A frequent question is "What happens if the learner fails to meet the stated criterion of the objective?" In order of their priority, there are two alternatives:

1. Analyze the methods and media used to teach the learner. It is possible the methods or media were not the most effective way of teaching the learner the skills or knowledge necessary to achieve the objective.
2. Alter the standard of evaluation. The first time an objective is written, the teachers may have overestimated the ability of the learners to achieve the objective at a particular point in time.

IMPORTANT STATEMENTS REGARDING PERFORMANCE OBJECTIVES

1. A PERFORMANCE OBJECTIVE MUST IDENTIFY AN OBSERVABLE BEHAVIOR.

The identification of observable behavior as the outcome of prescribed learning activity is the fundamental characteristic of a performance objective. Example:

> Given a worksheet, the student will be able to add correctly 18 out of 20 single digit number problems involving simple addition.

The observable behavior for the above objective can be seen in the student's ability to solve the simple addition problems.

2. A PERFORMANCE OBJECTIVE MUST IDENTIFY THE SPECIFIC CRITERIA FOR STUDENT SUCCESS.

The specific criteria for student success is essentially the identification of the extent of the observable change in behavior. The above performance objective states clearly what the student will be doing when he demonstrates his mastery of the content which he pursued in the learning activity and the allowable margin of error.

The purpose of the evaluation is for the student to be able to demonstrate that he can meet with success rather than be proven a failure. The criterion for success may be passing a written test, even one with time limits, but the nature of the test must be known to the student when he starts the learning activities. The criterion for success might be simple demonstration of a skill mastered, or the teacher's evaluation by a prestated check list of a completed project which is the product of the student's effort. Creative teachers will develop many other good criteria for demonstrating mastery by students who have pursued prescribed learning activities. In every case, the objective states these criteria to the student before he starts to work.

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3. THE STUDENT MUST BE ABLE TO IDENTIFY THE OUTCOME OF HIS EFFORT.

The student certainly needs to know the anticipated end result of his effort. A common objective between the pupil and teacher can exist only when clear communication and understanding exists.

In order for the student to have a sense of direction, the end result of his effort must be of such a nature that he can envision the outcome before he starts. Students who are not highly motivated need objectives of a short-term nature in order that success can be immediate. The student's initial glimpse of the product of his effort can be communicated by a carefully stated objective.

4. THE TERMINOLOGY MUST BE SPECIFIC AND CLEAR.

There are key words often used in performance objectives which tend to make the objective clear and explicit, while other words lead to vagueness.

A few examples:

Words which tend to be clear and precise	General terms or words which are vague and unclear unless clearly defined
to contrast	to appreciate
to compare	to believe
to differentiate	to enjoy
to identify	to grasp
to list	to know
to solve	to understand

Clear and precise terms are especially important when writing performance objectives for short units, assignments, or instructional packages. Terms in the above left column make the definition of student success more concrete, while the words in the right-hand column are not specific enough and communicate different things to different people, unless clarified to the satisfaction of learner and teacher.

The teacher can observe that a student is able to identify the form of a sonnet or to write a sonnet, but it is more difficult to observe the depth of the student's enjoyment of poetry.

It is more difficult for the teacher to give specific observable criteria for a change in behavior using the phrases in the right-hand column. Yet, if a teacher recognizes that a student shows his appreciation of poetry by volunteering to read poetry aloud to the class or by writing his own poems (without outside reward), then one way to measure may be by the number of students who voluntarily participated in these activities. Remember, the words used by the teacher must present no ambiguity to the learner if the objective is to be effective.

5. THE OBJECTIVE AND THE EVALUATION MUST BE CONSISTENT.

The statement regarding the desired behavior of the learner must be clear, complete, and as all inclusive as possible. For example, it is not fair to ask a student to accept the objective of baking biscuits of a certain quality in homemaking and evaluate her on the correct use of kitchen appliances. If the biscuits are of the quality which are specified, then she should have the recognition of success. If the proper use of kitchen appliances were to be part of the objective, this part of the objective should also be communicated to the student.

6. PERFORMANCE OBJECTIVES MUST BE RELEVANT AND ACHIEVABLE.

If the student pursues objectives which he recognizes as meeting his own needs, he is intrinsically motivated. Learning will occur if the objectives and activities are realistic for the student in terms of his potential. The objective must be achievable by the students for whom it is intended.

An example of an objective which is relevant to many students when planning high school programs is:

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> The ninth grade student will list the requirements for graduation from high school, including the titles of required courses and the number of elective courses which he can pursue. After he lists the high school graduation requirements, he will make a tentative list of the courses he will take during each of the six semesters he is in high school.

In contrast, the student is not likely to be motivated to enter the learning activities of an assignment if the objective is one for which he does not see a need. Many students would **not** react positively to the learning objective below:

> When given a list of ten important incidents related to the Revolutionary War, the student will be able to attach the corresponding dates including day, month and year to at least eight.

This objective might be considered acceptable. It is clear what is expected of the student, but is it relevant to him? Will he see a need within himself to enter the learning activity? The teacher therefore must make relevance a prime concern when selecting learning objectives.

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SECTION II
Meeting 2

REVIEW OF PROGRAMMED MATERIAL

The following frames will have been completed by the teachers prior to the second meeting. You should review each of the frames listed below while completing Activities 3, 4, 5 and 6. The teachers have been asked to reproduce copies of their objectives for the entire class or to put them on overhead transparencies.

Frame 20 Teachers will list in their programmed books five examples of "whats." A brief review is all that is necessary.

Frame 27 Teachers will list in their programmed books five examples of "hows." A brief review of this frame is all that is necessary. There will be a tendency for teachers to confuse the "whats" and "hows." If confusion exists it must be cleared up. A good technique is to ask the teachers to play the role of the student and ask the questions: "What do I have to do?" "How am I going to go about doing it?"

Frame 32 Teachers will list in their programmed books five examples of "how wells." Review these examples and point out the variety of measuring techniques which can be used to measure behavior. If the statement "to the teacher's satisfaction" should be used, caution teachers they must have some criteria available to themselves, their evaluator and more importantly to the students, that tells exactly what it is that satisfied them.

Frame 34 Teachers will have prepared five performance objectives. These must be in a form visible to all participants (ditto or overheads). All objectives must be reviewed. **This is the most important part of the first meeting.** At this point the instructor must help individual teachers. The program will be lost if the instructor does not assure himself that each teacher can write an acceptable performance objective.

PREPARING AND EVALUATING PERFORMANCE OBJECTIVES

1. Does the performance objective **describe what the learner will be doing** to demonstrate that he has attained the objective?

2. Does the performance objective specify the important **conditions** under which the learner must demonstrate his competence?

3. Does the performance objective delineate **criteria** by which the learner's performance proficiency can be judged?

4. Has the performance objective been specified using **action words** that preclude misinterpretation?

5. Has the performance objective been delineated in **sufficient detail** to assure that the expected performance outcome can be recognized?

6. Has a separate statement been detailed for **each performance objective** to be achieved?

To The Instructor

The single most important function of a performance objective is to communicate to the learner **what it is he is to do, how he is to do it** (conditions) and **how well** he is to do it. Remember, specify what the learner is to do **not** what the teacher is going to do.

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ASSIGNMENT 1

Using the three major components of performance objectives as guidelines:

1. **What** must be **KNOWN** or **DONE.**
2. How it will be **DONE** or **DEMONSTRATED.**
3. **HOW WELL** it must be done.

Correctly label, using the above numbers as answers, the following performance objectives:

A.	From a given list of words and using a standard dictionary	2
	the student will be able to look up 15 words and write the dictionary definition	1
	without error, in a 30 minute period of time.	3
B.	The student will be able to operate three standard type phonographs and play records on them	1
	without error	3
	at speeds of 33-1/3, 45, and 78 RPM	2
C.	The student assistant will be able to utilize the Dolch vowel game	1
	in a simulated exercise	2
	without error, as judged by the instructor.	3
D.	The learner will demonstrate addition, subtraction, multiplication and division drill skills	1
	using the Toy Money kit	2
	as measured by prepared questions to 90% proficiency.	3
E.	Given a list of 15 words from Roget's Thesaurus,	2
	the learner will find another shade of meaning for each word	1
	with 80% accuracy as determined by the teacher.	3

ASSIGNMENT 2

The learner will demonstrate his ability to recognize complete performance objectives from incomplete performance objectives by completing the following exercise without error.

Place a check mark (✓) before statements which you believe are performance objectives.

1. Kindergarten students will pick up colored blocks that correspond to the oral directions from the teacher with 100% accuracy.

2. In a test of basketball skills, fifth grade male students, using one hand push shot, will score two out of ten shots from the free throw line attempted at a basket set at regulation height.

3. Seventh grade girls will demonstrate their appreciation of music by singing "America the Beautiful."

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4. Second grade pupils read for understanding "The Three Pigs."

5. Given a series of advertisements, political brochures and/or taped statements, 80% of the students shall differentiate between emotional appeal, value judgement and factual information in an exercise devised by the teacher, with 75% accuracy.

6. From a teacher prepared list of words and using a standard dictionary, the student will correctly pronounce all of the words from the list, when called upon by the teacher.

7. Students will complete a word recognition test after three weeks of instruction.

8. By the end of the 8th grade students will be able to express themselves creatively with various art media.

9. By the end of the unit, the students will be able to edit and rewrite an incorrect paragraph and correct the capitalization, punctuation, sentence structure, and paragraph structure with 75% accuracy.

10. The students will demonstrate their knowledge of a "food chain" by completing the teacher developed diagram.

ASSIGNMENT 3

Place a check mark (✔) to the left of each performance objective which you judge to be acceptable according to the criteria established for performance objectives. If incomplete, check in the right-hand margin any missing element.

Objective	Missing Component (if any)	
✔ 1. When given three paragraphs in which periods, commas, and capital letters are missing, you will be able to capitalize correctly and place properly all periods and commas.	1. What How How well	
2. After class discussions and films concerning the Monroe Doctrine, the learner will know how the Doctrine has been related to the U.S. foreign policy today.	2. What ✔ How How well	*"Know how" is too general; how can "know" be demonstrated?
3. When given a list of four major causes of the Great Depression, you will be able to explain each one to the satisfaction of the teacher.	3. What ✔ How How well	If we ask a learner to "explain," we should state whether he must write or recite or both because it makes a difference to the learner.
4. After studying the material outlined below, you will be able to solve the problems at the end of the chapter involving simple fractions.	4. What How How well ✔	
5. Study the six poems listed below for the purpose of learning to enjoy poetry.	5. What How ✔ How well ✔	

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ASSIGNMENT 4

Complete performance objectives for the following suggested areas (curriculum). They may be written at either the elementary or secondary levels. Complete any two of the six areas listed below. This assignment may be completed individually or in small groups.

1. Science
2. Reading
3. Social Science
4. Music
5. Language Arts
6. Mathematics

ASSIGNMENT 5

Five statements are given below. Please alter as necessary to make complete performance objectives.

A. In a matching test, given after a unit about famous art and artists, students in a seventh grade class will be able to match a list of fifteen artists with a list of fifteen famous paintings.

B. Eighth grade boys, dressed in P.E. uniforms, will run the 50-yard dash.

C. The student will demonstrate his understanding of a topic sentence in a paragraph.

D. The learner will show his ability to identify synonyms, homonyms and antonyms.

E. Given a list of 20 excerpts from the writings of Ernest Hemingway, you should understand how they illustrate his philosophy of life.

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SECTION III
Meeting 3

REVIEW OF PROGRAMMED MATERIAL

The teachers have covered a great deal of material between meeting 2 and meeting 3. There are three very important points to be stressed during your third training session.

First, learning behavior is classified into three broad categories: cognitive, psychomotor and affective domains.

Second, these learning behaviors are classified into three categories for the purpose of instruction and evaluation, and performance objectives are written with specific reference to one of the three domains. (The examples given in Frames 35, 36 and 37 should be reviewed when discussing this point.)

Finally, there are different levels of difficulty or sophistication in learning. (The various levels within each of the three domains: cognitive, psychomotor, and affective.)

Remember this will be the first introduction for some teachers to Bloom's Taxonomy: their proficiency level may not be high. The important point is for teachers to recognize that learning takes place at various levels of sophistication.

The Frames described below will have been completed by teachers prior to meeting 3. When discussing the cognitive domain, it should be noted that writing objectives at the evaluation level is difficult for most if not all teachers. This is a good time to point out that program level objectives should be written, if at all possible, at the higher cognitive levels (not necessarily the evaluation level but usually at a higher level than knowledge).

Frame 35
36
37 Review this information. Before you critique the objectives written by the teachers for Frame 43, emphasize these two points:

1. When an individual acts in a particular way, his behavior is a combination of all three domains, (cognitive, psychomotor, and affective). For example, the quarterback throwing the ball is an observed psychomotor behavior. The quarterback's thinking about the pass pattern and his desire to complete the pass is not observable. Yet both are in all probability present when he throws the ball.

2. Objectives are written to measure competence in one of the three domains, even if we are sure the other domains must be present to accomplish the behavior we are measuring. For example, we write an objective which calls for the learner to write a paragraph with 100% accuracy in the areas of punctuation, capitalization and spelling. In this case we are measuring the learner's cognitive skill in punctuating, capitalizing and spelling even though he must have the psychomotor skill necessary to write. Remember, the three domains are separated for the purpose of instruction and evaluation. The performance objective must be formulated in terms of the domain being emphasized.

Frame 41 Teachers will write two short narratives, each containing words which specifically denote whether the activity is cognitive, affective, or psychomotor. This is a good time to generate the idea that all learning behaviors encompass all three domains.

Frame 43 Teachers will have prepared two objectives in each of the three domains. These objectives should be reviewed. At this point it is probably only necessary to review some of the objectives as the distinction between domains is easily grasped by the teachers.

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Note: it will be difficult to critique all the objectives from all teachers for frames 59-94. Select representative examples from the class to critique.

Frame 59 Teachers will write one performance objective at the "knowledge" level of cognition. Review objectives at this level.

Frame 68 Teachers will write one performance objective at the "comprehension" level.

Frame 76 Teachers will write one performance objective at the "application" level.

Frame 83 Teachers will write one performance objective at the "analysis" level.

Frame 88 Teachers will write one performance objective at the "synthesis" level.

Frame 94 Teachers will write one performance objective at the "evaluation" level.

Frame 115 Teachers will write three performance objectives in the affective domain. (The valuing and attitudinal area of teaching may present some problems for teachers, particularly at the high school level.)

THE COGNITIVE DOMAIN

Most performance objectives are written with reference to the intellectual processes of the learner. This process is referred to by Benjamin Bloom in his taxonomy* as the **cognitive domain.** Within this domain are various levels of learning difficulties.

Simple ↑ Complex

1. Knowledge - recall, remembering, storing of information
2. Comprehension - understanding a communication, a message, making inferences, meaning
3. Application - applying information to new problems, situations, transferring of knowledge
4. Analysis - a breaking down of materials into parts, distinguishing fact from hypothesis, noting how ideas relate
5. Synthesis - putting together of elements, drawing upon elements from many sources and putting them into a pattern, problem-solving
6. Evaluation - making of judgments, involves use of criteria and standards for making appraisals

While it is valuable to recognize and be able to write objectives at all of the levels, a first step is to be able to identify an objective as "simple" or "complex." In other words, is the objective at the lower end or upper end of the cognitive taxonomy? The ability to decide this will help teachers determine the proportion of performance objectives written at each level.

*Taxonomy: a classification or ordered relationship (a hierarchy where each order requires the skills of a lower order).

ASSIGNMENT 6

Following are examples of complex and simple level performance objectives. Mark a "C" before those which are complex and an "S" before those which are simple.

S 1. Given the name of a famous person, the student will demonstrate his knowledge of biographical source material by listing three specific sources an author would use in writing a biography about that person.

*S 2. Given a picture of a clock, the student will correctly tell the time to the hour, as represented on the clock.

C 3. The learner will demonstrate knowledge of responsibility to his peers in a role playing situation in which one child is the agressor, and imaginary use is made of

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objects such as a ball, pencil, hand, or paints. The learner will be able to play the role of the aggressor or the one attacked, and will offer at least two solutions to the problem to the satisfaction of the class.

S 4. At the termination of the unit, learners will be able to list in writing at least 12 states not involved in the U.S. Civil War.

C 5. Given a problem by the teacher, each student will give orally to the class at least one solution. There will be a consensus of the class and the teacher that the solution is practical.

C 6. The learner will discuss, evaluate, and formulate a solution for a social issue regarding name calling, ridiculing, color, clothing, speech, or physical disabilities by participating orally in a group discussion until the problem is solved to the satisfaction of the teacher and the group.

C 7. The learner will arrange in order of objective reporting three articles dealing with the same topic, according to the criteria of accuracy and clarity established by the American Newspaper Association.

S 8. The learners will list in writing, with 100% accuracy, four works of Milton and Keats.

*Elementary teachers may tend to mark this example complex, while high school teachers mark it simple.

THE AFFECTIVE DOMAIN

It would be negligent not to mention a third learning category or domain which often receives little attention in terms of performance objectives. This is the **affective domain,** which deals with the attitudinal, emotional, valuing behaviors of the learners. It is a more nebulous area than the cognitive domain, but according to many educators equally, if not more, important. It is difficult, but possible, to write performance objectives in this domain. As teachers become more proficient in the writing of performance objectives, many are producing creative products in the affective domain. Some samples include:

1. The learner will accept children of all ethnic groups in the classroom or on the playground by demonstrating his willingness to (1) include all children in games and activities; (2) choose a child regardless of ethnic group for leadership; (3) work together with all children in study groups; (4) choose children for personal friends from any ethnic group, as determined by teacher observation.

2. The learner will produce an art object using one or more of the following media: construction paper, paints crayons, modeling clay. He will give evidence that he has enjoyed both process and product by a comment or expression of satisfaction, as observed by the teacher.

3. The learner will demonstrate a more positive attitude toward self after three one-hour group counseling sessions, as determined by an increase of one-half standard deviation in pre- and post-test scores on the California Test of Personality.

4. After completing an exploratory music program in the Ging Elementary School, the learner shall demonstrate his interest in music by voluntarily participating in curricular or extra-curricular music activities conducted at the high school level.

The levels include:

1. Receiving
2. Responding
3. Valuing
4. Organization
5. Characterization by a value or value complex

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SECTION IV
Meeting 4

REVIEW OF PROGRAMMED MATERIAL

The following frames, completed by the teachers prior to meeting 4, will require special attention.

Frame 129 Teachers will write two program level performance objectives.

Frame 133 Teachers will write two instructional level performance objectives.

Frame 136 Teachers will write two task level performance objectives.

As noted above, the teachers were required to write examples of the three different levels of performance objectives: Program, Instructional and Task. During the first several Frames of the programmed material, the teachers also learned the differences between a Goal Statement and a Similar Goal.

An example of Goal Statement and its Similar Goals is:

Goal Statement

Learn to respect and get along with people with whom we work and live.

Similar Goals

A. Develop appreciation and respect for the worth and dignity of individuals.
B. Develop respect for individual worth and understanding and minority opinions and acceptance of majority decisions.
C. Develop a cooperative attitude toward living and working with others.

Similar goals are necessary in many instances to clarify the goal statements so they may be interpreted more clearly by the community and professional staff.

After the community has ranked the goals on a priority basis, it is the responsibility of the district's professional staff to develop program level performance objectives to meet the intent of the goal statements. When completed, the staff should continue the development of Instructional Objectives to permit sequencing of the school's instructional program (Sequential Learning Path).

LEVELS OF PERFORMANCE OBJECTIVES

The definitions below describe the three levels of performance objectives present in a curriculum.

PROGRAM LEVEL:: Program Level Performance Objectives are developed for all required courses and elective sequences. They are directly related to the district (school) goals and reflect the desired exit level of performance expected of the learners. These objectives are written for the critical skills and knowledge necessary for student survival at the next educational level or real world functioning.

INSTRUCTIONAL LEVEL: Instructional Level Performance Objectives are written for specific courses, disciplines, or units of work, by grade level or by curriculum areas.

TASK LEVEL: Task Level Performance Objectives contribute to, or must be completed to achieve, an instructional objective.

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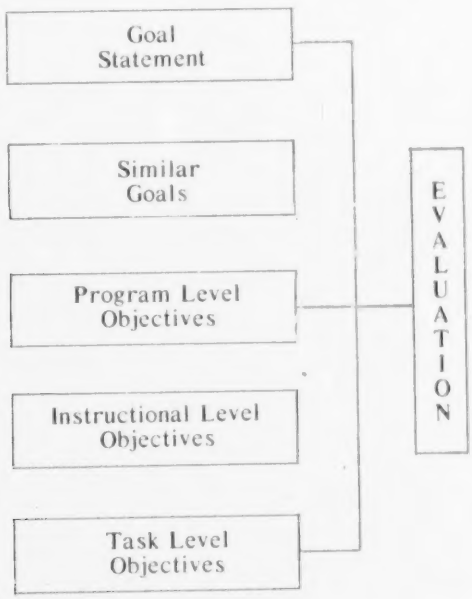
The relationship between the various levels of Performance Objectives and the Educational Goals of the District or School is linear, as shown below:



PROGRAM LEVEL PERFORMANCE OBJECTIVES

DEFINITION:

Program Level Performance Objectives are developed for all required courses and elective sequences. They are directly related to the district (school) goals and reflect the desired exit level of performance expected of the learners. These objectives are written for the critical skills and knowledge necessary for student survival at the next educational level or real world functioning.

EXAMPLES:

Reading

Upon completion of the 8th grade at Valley View Elementary School, at least 90% of the students will be reading on or above a grade equivalent score of 5.5 as measured by the California Test of Basic Skills, Form Q, Level 3.

Reading

At the termination of Grade 6, all students in the Butte River Unified School District will be reading above the level of the line of regression of a statistical scattergram for past performance of the individuals in the district.

Social Science

Given a specific situation in which a problem is presented, the learners will use the problem solving technique of inquiry to solve the problem according to the criteria of investigation specified in the Social Science Education Framework for California Public Schools.

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Social Science

The student will demonstrate his readiness to participate in citizenship activities by listing the following with 100% accuracy:

a. The five (5) steps necessary to be qualified to vote.
b. The six (6) steps necessary to be registered to vote.
c. The three (3) steps necessary to become a candidate for any local public office.

INSTRUCTIONAL LEVEL PERFORMANCE OBJECTIVES

DEFINITION:

Instructional Level Performance Objectives are written for specific courses, disciplines, or units of work, by grade level or by curriculum areas.

EXAMPLES;

Foreign Language

The learner will take part in at least one conversation between two parties of three to five minutes duration. This conversation will be based on a scenario which he will have chosen at random from several provided by the instructor. This skill will be measured at 90% accuracy.

Government

During the period preceding a major election, the learner, in relation to his own political, social and economic position, will evaluate positions of candidates and issues involved, according to pre-established criteria devised by the teacher and the class.

Mathematics

Given examples of the Hindu-Arabic system, the learner will demonstrate his understanding of place value systems by changing base five to base ten numerals and base ten to base five numerals, using a student made chart of place values for each base, with 80% accuracy.

Mathematics

The learner will demonstrate his ability to construct (1) a horizontal bar graph, (2) a vertical bar graph, and (3) a double bar graph when given three sets of data. Each graph will be evaluated by the teacher according to pre-established criteria.

Physical Education

In physical fitness tests following State manual and district regulations, the learner will show 5% improvement over his previous year's record in three out of five tests.

TASK LEVEL PERFORMANCE OBJECTIVES

DEFINITION:

Task Level Performance Objectives contribute to, or must be completed to achieve, an instructional objective.

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EXAMPLES:

Reading

1. Given a paper with ten pictures, each with the beginning consonant missing from the picture name, you will write the beginning consonants in the blanks. The **beginning** consonants for these pictures are: y, w, g, k, z, j, v, l, n, and p. Minimum: 100% correct.

Language Arts

2. Given three paragraphs and using Roget's Thesaurus, the learner will rewrite each, substituting key words which will change the original intent of the author. Accuracy: 80%.

Art

3. The learner will select, from a chart containing various colors, those which are considered to be the primary colors, with 100% accuracy.

Science

4. Given a selection of five minerals, the student will determine for each: hardness, streak and acid reaction, using a field test kit, with 100% accuracy.

Social Science

5. The student shall correctly mark on a map of his city the location of his voting precinct for the next general election.

DEVELOPING THE THREE LEVELS OF OBJECTIVES TO FOCUS UPON CRITICAL SKILLS AND KNOWLEDGE

One of the most difficult, yet most rewarding, tasks you and your teachers will perform will be the identification of critical skills and knowledge in the school's curriculum.

Critical skills and knowledge are defined as the minimum skills/knowledge/concepts which are imperative for the learner's survival (success) at the next higher educational level or real-life situation. These are further defined as skills **all** or **most** students can and will acquire in various curriculum areas.

Writing performance objectives to meet the abilities of an "average" learner is difficult if not impossible. The "bell shaped" curve is a model which seldom, if ever, resembles the population of a teacher's classroom or school.

Therefore, performance objectives are developed initially on the critical level of competency expected of the learners.

REMEMBER: Point out to the teachers that there will be several Program Level Performance Objectives for each subject area.

When identifying the critical skills, the question elementary school teachers will have to ask themselves is:

After 8 years of a subject (for example, Language Arts), what are the critical or minimal skills a student will need to survive (experience success) in high school?

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—OR—

After completing 8 years of the mathematics program in our school, what are the critical mathematical skills and knowledge a student must acquire to survive (experience success) in the required high school mathematics program?

When identifying critical skills, the question a high school staff must ask themselves is:

What are the critical skills and knowledge the students will need to survive in real life situations?

Remember, if it is determined all students must take certain required courses because these courses are essential to the student's success in real life situations, then the high school staff must identify the critical skills within these required areas of the curriculum.

Only required courses or recommended sequences will be considered (at the program level). If three years of social science are required, the staff considers the critical skills and knowledge a student will attain at the end of the three year sequence. If two years of science are required, the science department will determine the critical skills students will acquire after two years. No matter what courses the students take or in what sequence, the critical skills will be the common scientific information or concepts learned by all or most students.

It should be noted that high school elective courses other than those considered to be part of a recommended sequence should **not** be included in the Program Level Performance Objectives. These courses will require Instructional Level Performance Objectives.

It is important to point out that critical skills must be clearly defined because they form the basis of all Program Level Performance Objectives. They are somewhat different for the high school, and one of the differences has been explained above. Another example of the differences is shown below:

Required Courses or Sequences

Science
Social Science
English
Mathematics
Physical Education

Recommended Electives Sequences

Industrial Arts
Art
Agriculture
Home Economics
Music
Foreign Language
Business
Work Experience

Program level performance objectives will be written for all of the required courses and recommended sequences.

For example, one of the program level performance objectives for the recommended Business sequence might be:

> Upon completing the four year recommended Business sequence in Yellowstone High School, 85 per cent of the students will be able to pass the State Civil Service Examination for the position of Clerk Typist II.

For a quarter or semester elective course the teacher of that course would write an instructional level performance objective for the critical skills and knowledge expected of the students at the termination of the course.

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EXAMPLES OF CRITICAL SKILLS AND KNOWLEDGE

The following lists suggest some of the skills and knowledge deemed critical by teachers who have worked with the program. Review some of these critical skills with your teachers.

Exit Level: Grade 8
Suoject Area: Science

Scientific method of inquiry
Data keeping/observation
Metric system - conversion of weights and measures
Static vs. dynamic factors
Classification of plants/animals
Understanding basis of matter
Atoms/compounds — chemistry concepts
Physical laws of solids, liquids, gases
Relationship of man and his environment

Exit Level: Grade 8
Subject Area: Language Arts

Listening
Speaking
Writing
Reference skills
Library
Dictionary

Exit Level: Grade 8
Subject Area: Reading

Comprehension

main idea
sequencing
interpretation

Word Analysis

pronunciation
structure
consonants
vowel sounds
syllabication

Vocabulary

dictionary
parts of speech
meanings

ASSIGNMENT 7

As was mentioned previously, one of the most significant tasks in the entire program is to get teachers to identify and reach agreement on the critical skills and knowledge in the various curriculum areas. Teachers should be encouraged to begin this process during this last meeting.

In order to demonstrate the process used in determining critical skills and knowledge and translating them into performance objectives the following technique is suggested.

1. List on a blackboard four or five curriculum areas; i.e., mathematics, reading, social science, science, etc.
2. Ask teachers to group themselves according to curriculum areas (four to five teachers per curriculum area).
3. Have each group of teachers list four to six critical skills for their particular curriculum area.
4. Have each group of teachers write a program level performance objective which incorporates one or more of the critical skills they have listed in the previous step.
5. Have each group of teachers write one instructional level performance objective which will need to be accomplished by the learner in order to be prepared to complete the requirements of the program level performance objective.
6. Have each group write one task level performance objective in order to complete the requirements of the instructional level performance objective.

The two examples below demonstrate the format each group will be developing.

CURRICULUM AREA: Physical Education

CRITICAL SKILLS: Rules of games, leadership, team attitude, proficiency in physical skills required in at least four games.

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Program Level Objective

At the end of the P.E. sequence, students will demonstrate their understanding of the rules, and participate in a variety of team sports including:

basketball
touch football
softball
volleyball

as evidenced by their ability to (1) pass a written test on rules with 80% accuracy, (2) participate in a game situation as a team member and demonstrate knowledge of the sport as observed by the instructor, (3) referee at least one of the team sports for a full class period without assistance, to the satisfaction of the instructor and according to established rules and procedures, and (4) function according to P.E. department criteria as a team captain in a minimum of two team sports of their choice.

Instructional Level Objective

At the end of the basketball unit all students will be able to participate in a basketball game of regulation length and demonstrate ability to function as a team member according to basketball rules and established procedures of team play and skill development as observed by the P.E. department instructors.

Task Level Objective

The student will demonstrate his ability to make lay-ups by completion of 5 out of 10 attempts in a drill exercise on an outdoor or indoor court.

CURRICULUM AREA: Social Sciences

CRITICAL SKILLS: Climate patterns, map skills, use of map legends, time and distance problems, recognition of types of maps.

Program Level Objective

By the end of the eighth grade the student will demonstrate his knowledge of various kinds of maps, climates, conditions, and topography by planning a hiking-motor trip route from Mexico to Vancouver, B.C., utilizing the state trail systems (depending upon the climate) and in summer spending a minimum of 75% of the traveling time in wilderness areas. The trip is limited to five months during each season, and the hiker must meet road points at least once every two weeks. Only 400 miles during each trip may be traveled by means other than walking. The appropriateness of the routes will be determined by the class during a route critique session.

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Instructional Level Objective

The learner will plan a motor trip from his home town to a point 500 miles distant, utilizing state or federal highway systems and common road maps in both winter and summer months. The shortest direct routes are to be used, and the correctness will be determined by the teacher. No more than 300 miles should be traveled in any one day.

Task Level Objective

The learner will obtain and bring to class at least three common road maps, from free sources, which have been published during the current year.

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SECTION V

MANAGEMENT PROCEDURES FOR DEVELOPING OBJECTIVES AND ARTICULATING CURRICULUM

During the fourth meeting you will want to discuss further strategy with the staff regarding their plans for developing program level objectives. At this point a school or district time line should also be established. The information and time line offered below will serve as a guide.

GUIDELINES FOR DEVELOPMENT OF PROGRAM LEVEL PERFORMANCE OBJECTIVES

Activity	Product	Required Time	Total Hours
1.0 Train staff in performance objective writing	Staff ready to write performance objectives	8 hours, Prog. Materials, 7 hours, 4 meetings with instructor	15
2.0 Select writing teams; choose curriculum areas for initial emphasis	Selected teams/areas		
3.0 Write program level objectives for selected curriculum areas	Completed first draft of program level objectives	6 hours (3 meetings, 2 hours each)	6
4.0 Review by entire staff	Agreement on program level objectives	3 hours (2 meetings, 1-1/2 hours each	3
5.0 Select writing teams for additional curriculum areas	Selected teams/areas		
6.0 Write program level objectives for remaining curriculum areas	Completed objectives in all areas	8 hours (4 meetings, 2 hours each)	8
7.0 Review by entire staff	Agreement on program level objectives	3 hours (2 meetings, 1-1/2 hours each)	3
8.0 Establish entry level skills as required	Listed entry level requirements	1 meeting (2 hours)	2
9.0 Match/agree upon exit/entry level skills as required	Agreed upon exit/entry skills	1 meeting (2 hours)	2
10.0 Type all objectives by curriculum area; print also on 3x5 cards	Completed program level objectives		
11.0 Match program level objectives to goals	Completed match ofobjectives/goals	1 meeting (2 hours)	2
12.0 Type final objectives goals for dissemination			

TOTAL: 41 HOURS

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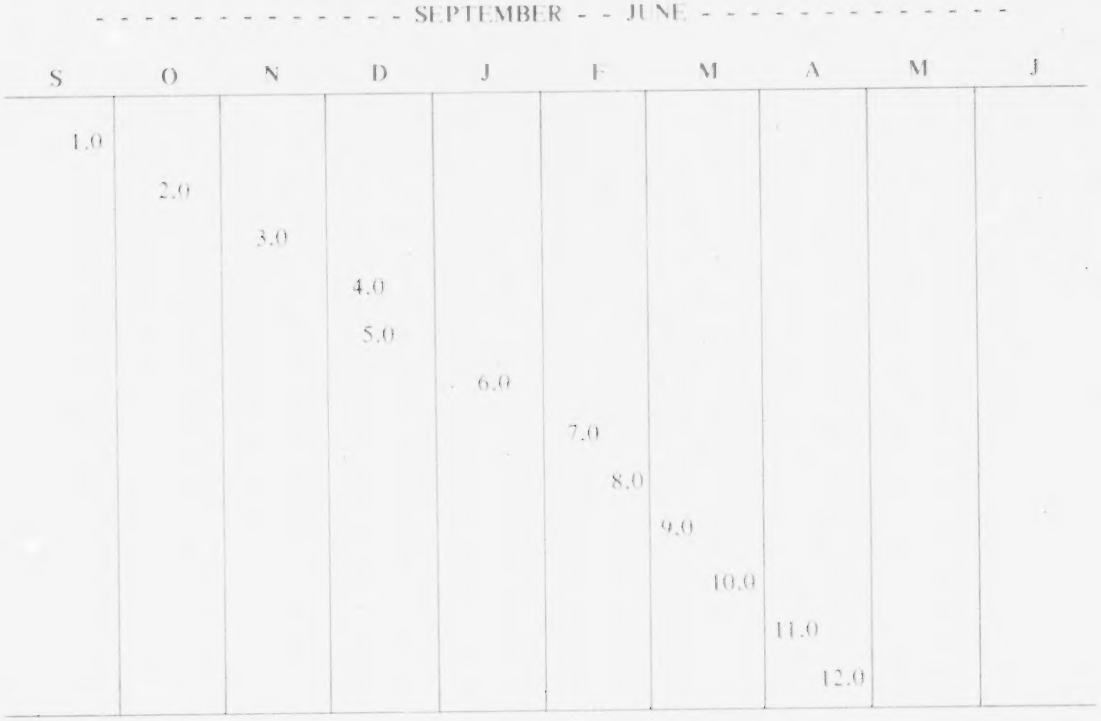
SUGGESTED IMPLEMENTATION TIME LINE



This time line is only a suggested format and should be revised by each school district to fit its calendar. In many situations high schools and larger elementary schools will be able to accelerate this time line. This will occur when all areas of the curriculum are assigned to writing teams in Activities 2.0 - 4.0.

ESTABLISHING PROGRAM LEVEL OBJECTIVES IN LARGE SCHOOL DISTRICTS

ACTIVITIES 2.0 - 7.0

In those school districts where the decision has been reached to have each school within the district set program level performance objectives, the following procedures are suggested.

Elementary Schools

1. Establish a time line (see preceding page) for the completion of the entire program (it is suggested provisions for a series of released or minimum days be included in this time line).

2. Select three to four curriculum areas for which the staff will begin to develop program level objectives.

3. Assign faculty members to committees which will develop program level objectives for a single curriculum area.
   a. Each committee should be composed of teachers who represent the entire school pattern (i.e., kindergarten through grade 8).

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4. When program level objectives have been completed for the initial curriculum areas, select three to four additional curriculum areas and repeat the above procedures.

5. When all program level objectives have been completed, begin curriculum articulation procedures (8.0).

High School

The various departments (Social Science, English, etc.) will write Program Level Performance Objectives for each curriculum area taught in the school.

Proceed with the appropriate curriculum articulation procedures described below.

ESTABLISHING PROGRAM LEVEL OBJECTIVES IN SMALL SCHOOL DISTRICTS

ACTIVITIES 2.0 - 7.0

In those school districts where the decision has been reached to have program level performance objectives established on a district-wide basis rather than by individual schools, the following procedures are suggested.

A. District-wide meetings are scheduled (perhaps on a minimum day basis), and teachers volunteer or are assigned to committees by curriculum area.
   1. A disadvantage to this procedure is that many teachers who teach in more than one curriculum area will not be represented.
   2. An advantage is that program level performance objectives for the various curriculum areas can be developed in a relatively short time period.
   3. Follow procedures outlined on previous page.

OR

B. District-wide meetings are held with each meeting being devoted to one curriculum area.
   1. A disadvantage of this procedure is that some teachers will attend several (perhaps as many as seven) meetings, while others (particularly those at the secondary level) will attend only one or two meetings at the most.
   2. An advantage is that each curriculum area will receive imput in terms of program level performance objectives from all of the teachers teaching in a particular curriculum area.

C. The product of the meetings, no matter which method is used, is several program level performance objectives for each curriculum area.

ARTICULATION OF CURRICULUM BY PERFORMANCE OBJECTIVES

ACTIVITIES 8.0 - 12.0

It will be necessary to discuss the material on the following pages during the meeting for Activity 8.0. At that point the staff will be ready to begin developing entry level skills and will be preparing for a match of the objectives and entry level skills.

When all of the program level performance objectives have been developed by your teaching staff, it will be necessary to conduct several **Curriculum Articulation Sessions** to ensure program

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continuity. To provide the most effective use of these articulation sessions, the following procedures should be implemented.

After agreement has been reached as to the content and requirements of the Program Level Performance Objectives of each curriculum area, initiate the following activities:

A. **Unified School District** – a district with one or more elementary schools and one or more high schools, both levels being governed by a single Board of Trustees.
   1. The high school staff will develop a list of critical entry level skills and knowledge students will need to complete satisfactorily the High School Program Level Performance Objectives for the various curriculum requirements and elective sequences.
   2. When completed, the lists of critical entry level skills and knowledge should be arranged in the following format:
      a) Cite the curriculum area as a heading.
      b) Write the program level performance objectives for this curriculum area.
      c) Under each objective list the critical entry level skills needed by the incoming high school student.
   3. A high school curriculum committee should be organized to complete the following tasks:
      a) Reproduce enough copies of all materials (objectives and entry skills) for a joint meeting of the high school curriculum committee and an elementary school curriculum committee.
      b) If there are several elementary schools in the district, copies should be forwarded to the curriculum committees in the various elementary schools prior to the meeting.
      c) Produce overhead transparencies of all materials (objectives and entry skills) by curriculum areas.
   4. The elementary school(s) will also organize an Elementary School Curriculum Committee to complete the following tasks:
      a) Reproduce enough copies of the elementary school's program level objectives to distribute to the high school curriculum committee.
      b) Produce overhead transparencies of program level objectives by curriculum area.
   5. **Recommended curriculum articulation** session procedures include:
      a) A joint meeting of high school and elementary school curriculum committees (purpose: to ensure the critical skills and knowledge stated in the elementary schools program level objectives are compatible with the critical entry level skills and knowledge stipulated by the high school staff).
      b) All participants are given copies of the materials described above (objectives and entry level skills format).
      c) Two screens and two overhead projectors are arranged next to each other, and in full view of all participants.
      d) One projector is used to show the high school program level objective and its critical entry level requirements while simultaneously the elementary school's program level objectives for the same curriculum area are shown on the adjacent screen.
      e) If the articulation between entry level skills and program level objectives is determined to be adequate, the program level objectives (not entry skills) are given to the Classification Team (see following pages for description of Team's role).
      f) If the Program Level Objectives of the elementary school do not adequately meet the entry level skills set by the high school staff for a particular curriculum area, the participants may:

         Discuss the inconsistencies and attempt to make the necessary changes during the session;

         or

         Appoint curriculum area specialists to meet at a later date to resolve the inconsistency.

      g) As each curriculum area is completed (articulation agreed upon), the program level objectives for the high school and elementary school are submitted to the Classification Team.

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B. **Elementary School District:**

1. Program level performance objectives will be completed for the 8th grade (or grade 6 if kindergarten - 6 school). The 8th grade teachers will list the critical entry level skills and knowledge required of the student before entering that grade in order to complete the requirements of the program level objectives of the various curriculum areas.
2. Before articulation of the instructional program can be completed, it will be necessary for the teachers to write Instructional Level Objectives. These objectives are usually written at grade level. (If an ungraded situation exists, the Instructional Level Objectives are written at the major transition points in the curriculum for each curriculum area.)
3. As the teachers complete the instructional level objectives, they list the critical entry level skills the student will need to complete the requirements of the instructional level objectives within the specified time constraints, i.e., by the end of the 4th grade.*
4. The critical entry level skills are then matched against the instructional level objectives written for the prior time period (grade level) or major curriculum transition points, i.e., 5th grade entry level skills are matched against 4th grade instructional objectives).
5. Curriculum articulation sessions are held, and compatibility is established between instructional level performance objectives and succeeding entry level skill and knowledge requirements.

C. **High School Districts:**

1. Because of the departmentalization feature of a high school, the format lends itself to articulation within the curriculum structure of each department.
2. Each department, which has a required course sequence, required class or an elective sequence, will write program level performance objectives for the department's area of curriculum responsibility.
3. If a required course sequence, required class or elective sequence exists, program level objectives will be written to describe student performance at the termination of the sequence or required class. In addition, a list of critical entry level skills and knowledge will be developed which will contain the skills and knowledge students will need before entering the sequence to ensure their success in meeting the requirements of the program level objective within the stated time constraint.*
4. The teachers of each course within the required or elective sequence will write instructional level objectives and the necessary critical entry level skills and knowledge required.
5. Department meetings are held, and entry level skills and knowledge are matched against instructional level objectives for compatibility.
6. The completed program level performance objectives are submitted to the Classification Team.

GOALS-OBJECTIVES CLASSIFICATION PROCEDURES

1. The following membership is recommended for a district's Classification Team:

Teachers	-2
Community Group	-2
Board Member	-1
Administrator	-1

*It is recognized that learning rates will differ among students, and some students may not possess the necessary entry level skills/knowledge to complete an objective within the stated time constraint. The purpose of establishing entry level skills is to ascertain individual learning rates and guarantee the learner's ability will always be matched against that educational material which will allow him to experience success as well as progress.

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One student member may be included at the high school level. It is recommended that teachers for the Classification Team be selected from the appropriate grade levels. If the Classification Team is working with program level objectives for the sixth grade, the teacher members should be teachers from grades 1-6. Conversely, if the 12th grade exit level (program level performance) objectives were being examined and classified, the teacher members should be members of the high school teacher staff.

2. Using the following procedure, the Classification Team will match each randomly filed program level performance objective developed by the teaching staffs to the most appropriate goal.
   a. A program level performance objective should be classified under the goal (make sure you carefully read the similar goals also) to which it makes its major contribution. If it is believed an objective contributes to more than one goal, classify it under the goal to which it makes the major or primary contribution (and mark it "P" for primary) and under the second goal to which it makes the second strongest contribution (mark this objective "S" for secondary).

3. This procedure will develop a matrix of goals and related program level performance objectives.

4. This matrix will provide qualitative and quantitative data pertaining to how well existing programs and courses of instruction are meeting the needs of the district. This information can be considered the actual level of performance.

5. After developing the matrix, if the Classification Team finds goals for which there are no or inadequate performance objectives, the following procedures are suggested:
   a. The goals for which there are no or inadequate performance objectives are distributed to the teaching staff by the building administrator.
   b. Teachers are asked to write program level performance objectives to meet these goals and submit them to the Classification Team.*

6. The Classification Team will add these program level performance objectives to the matrix as developed.

7. Dissemination of the Goals/Objectives matrix may take place after completing #3 on the preceding page or after objectives for new programs have been developed and matched to the priority ranked goals.

*The Superintendent may indicate to the te[illegible], that funds for program development will be made available for the initiation of new courses or methods whose performance objectives and subsequent program description best meets the goals of the district. Teachers should be encouraged to submit approximate costs of the program.

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The Sequential Learning Path, A Summary

When the matrix has been completed, the teaching staff will begin developing Sequential Learning Paths for the various areas of curriculum.

A Sequential Learning Path

Definition: a step by step, ordered process designed by subject matter specialists (teachers) which allows the learner, advancing at his own learning rate through a series of performance objectives, to complete Program Level Performance Objectives.*

The subject matter specialists determine the critical skills and knowledge necessary to meet the program level objectives for each curriculum area. These skills and knowledge are arranged in a series of learning steps, proceeding in an orderly fashion from one task to another, which must be successfully completed by the learner in order to attain the stated requirements of the Program Level Performance Objectives.

DEVELOPMENT OF A SEQUENTIAL LEARNING PATH

Have the teachers divide into small groups by curriculum area. Have each group decide upon a unit of work approximately one week in length and have them follow the procedures below:

1. Establish a performance objective for a unit of work. The level is arbitrarily established by the subject matter expert. (This objective can be at the instructional level or the program level.)

2. Establish the standard of measurement (Criterion Test) for the objective. The criterion test is simply the evaluation standard which determines whether or not the learner has achieved the requirements of the objective.

3. Establish the necessary entry level skills or knowledge students **must** have to begin the learning sequence. This may be arbitrarily set.

4. List all subject skills, knowledge and concepts which exist between the established entry level and the objective. (What are the things a learner needs to know, or do, before he can achieve the objective?)

5. Order these in a logical sequence based upon the needs of the learner(s).

6. Once these instructional tasks or steps are sequenced, some will be more complex than others. (They will take more time to achieve.) These, then, will become **major** learning steps.

7. Establish the evaluation for each major step (Criterion Test).

8. Now analyze the remaining steps and see that they are in some logical order. Several may be grouped around a major step. (It may take several of these tasks to achieve a major learning step.) These smaller steps will be referred to as **minor** learning steps. These steps are simply the knowledge and skills necessary to achieve each major step.

*In single semester classes or in classes not part of a recommended sequence, instructional level objectives define the termination point of the class. This Sequential Learning Path is comprised of instructional and task level performance objectives exclusively.

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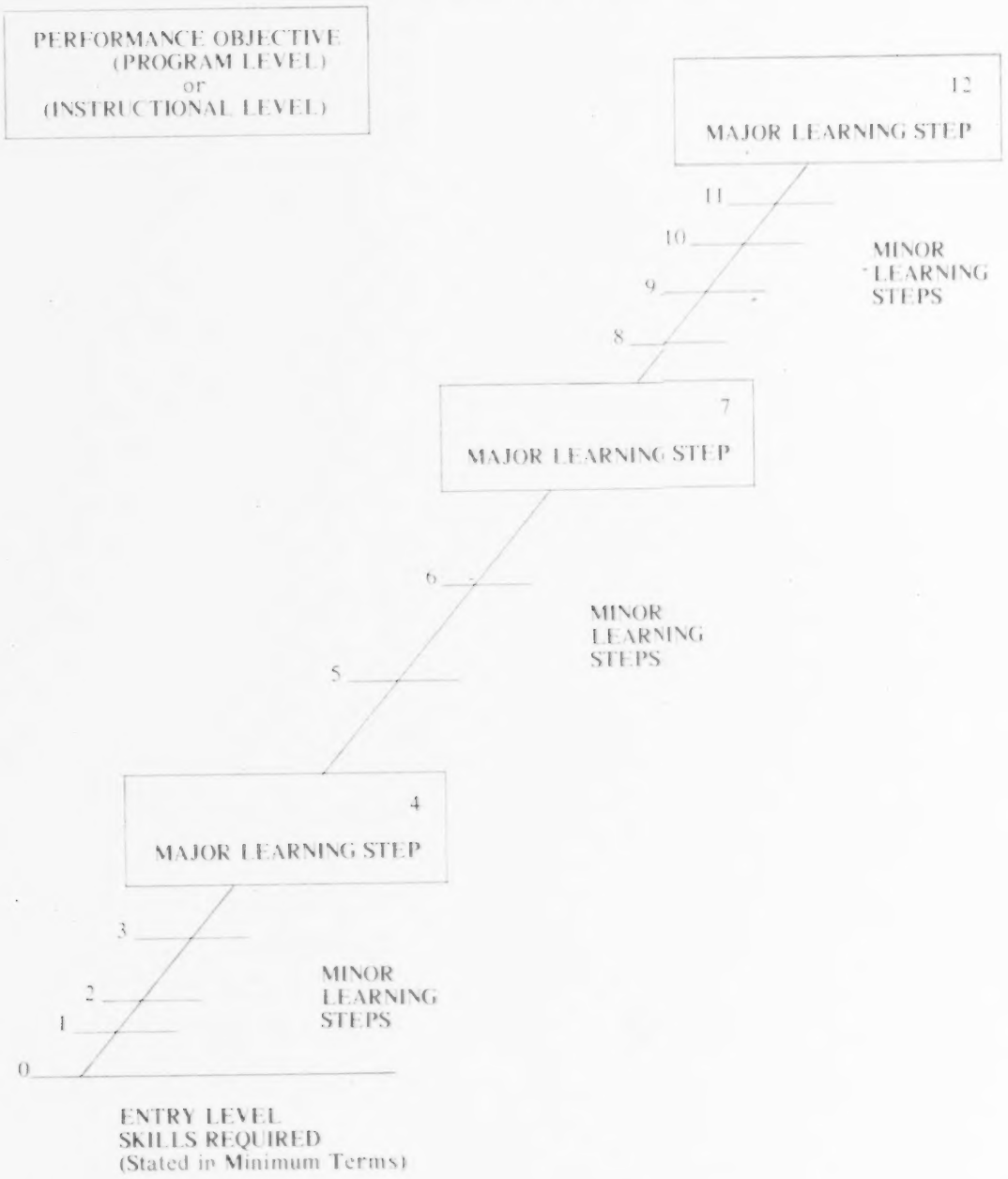
9. Develop criterion tests for each minor step. The criterion test may cover more than one minor learning step, if appropriate.

10. Examine the sequence again to ensure that it is in a logical order as seen through the eyes of the learner.

11. Finally, relate the sequence to the Performance Objective to ensure compatibility.

FORMAT OF A SEQUENTIAL LEARNING PATH



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THE SELECTION OF METHODS/MEDIA

After the Sequential Learning Path has been developed, complete with criterion test items, it is necessary to determine the appropriate methods and media applicable to each learning step. Examples are:

1. Media: equipment, materials, audio-visual aids, hardware, games, texts
2. Methods: small group discussion, large group lecture, inquiry, role playing, team teaching, student-directed activities.

Methods and media form the "how to" part of teaching. Once the knowledge and skill steps have been ordered in a logical sequence, the teacher selects the methods and media most appropriate to present in order that the learner may achieve each objective. Several methods might apply to a particular learning step (to meet varying learning patterns).

The following worksheet format is helpful in establishing methods and media for each Learning Step (two examples are shown).

Learning Step Number: 2 (Reading)		TP C	Teacher Prepared Commercially Prepared
Media	Media Identification	TP or C	Method or Suggested Procedure
Workbook	Phonics Workbook Grade 3, Harper & Row Co., State Reading Series pp. 38-39.	C	Learner will respond with a written product from directions in Workbook.

Learning Step Number: 7. (Social Science)			
Media	Media Identification	TP or C	Method of Suggested Procedure
Confrontation material artifacts from a primitive culture	Obtained from State College Anthropology Dept.	N/A	Integrative mode processes of classification will be stressed. Attempt to have students reconstruct a cultural setting based upon artifacts.

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A COMMENT ON THE SEQUENTIAL LEARNING PATH

In emphasizing the meaning and correct usage of the three levels of performance objectives, this manual is concerned with the design of procedures which permit effective evaluation of student performance by those who are accountable for student progress in the classroom.

When a student completes a program level performance objective, by definition he has participated in an **instructional program.** An instructional program begins in kindergarten and terminates with the exit level of the school or school district. It is unfair to a teaching staff to expect a student entering the program at mid-point (at grade 5) to reach the level of proficiency stated in a program level objective of that school, unless he entered the program with the critical skills and knowledge necessary to reach the stated objectives. More importantly, it is unfair to the student, who does not possess these skills and knowledge, to be placed in learning situations where he experiences failure.

The value of testing should be stressed at this point. Both incoming and continuing students should be pre-tested in order to ascertain the entry point on the sequential learning path at which each may enter, experience success, and proceed at his own learning rate to achieve the program level objective.

A sequential learning path, it must be stated, transcends grade levels, that is, it maintains an orderly or logical sequence regardless of the instructional configuration.

On the other hand, the sequencing of learning activities in a manner that seems most logical to its designer does not necessarily ensure that the learner possesses this same logic. This means the style of learning most appropriate to the learner and the style of teaching most appropriate for the particular teacher will dictate the sequence in which the minor learning steps are taught. For example, one teacher may prefer to teach vowels before consonants while another teacher reverses the sequence and presents consonants before vowels. Regardless of the sequence, it is recognized that competency in both areas must be acquired by the learner to achieve proficiency in reading.